

Effect of Family Life Education on Adolescent Academic Achievement in Reproductive Health Issues in Niger State

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Abstract: The purpose of this study was to examine the effect of family life education on adolescent academic achievement on reproductive health issues in Niger state. Quasi-experimental (non-equivalent control group design) was used for the study. The study was carried out in Bida Educational Zone of Niger state. The samples used for the study were 187 adolescents of JSS111 comprising 112 male 70 female. One intact class was selected from each of the four coeducational schools in Bida education Zone of Niger state through purposive sampling. The instrument used for the study was a cognitive achievement test. This achievement test was used for pretest and posttest. Two lesson plans and marking guide were developed for the study. Standardized test items were used. Mean and standard deviation were used to analyze the research questions, while Analysis of Covariance (ANCOVA) was adopted in testing the hypotheses at 0.05 probability level. Results show that adolescents taught reproductive health issues using family life education performed higher than those taught using conventional approach. Secondly male and female adolescents benefited equally from training using family life education instructional approach. Also there is a significant difference between the mean achievements of adolescents of urban and rural location in reproductive health issues.

Key words: Academic achievement, adolescent, family life education, Niger state, reproductive health issues

INTRODUCTION

Family is the most important social institution and the smallest social unit in the society. It has its roots in the human biological and physical nature. As such, it is universal in the sense that no human society could possibly exist or has existed without some form of family organization. According to Fields and Casper family comprises of two or more persons related by blood, marriage or adoption and living in the same residence. Taylor and Sallis (2009) asserted that families exist in all sizes and configurations and are essential to the health and survival of the individual members of the society as a whole. The authors stressed that family serves as a buffer between the needs of the individual and the demand and the expectation of society. Miller *et al.* (2001) stated that the structure of the family provides a salient developmental context in which children grow up and usually have primary relationships with one or two biological parents. This relationship could also be with or without older and younger siblings. In the context of this study, family is a group of people who are united through

marriage for the purpose of living together as responsible husband and wife with children and other members of the extended family.

With the passage of time these children within the family develop physically, mentally, sexually and socially. These developments normally occur during adolescence period. The period of adolescence occupies a unique stage in every person's life. The National Research Council [NCR] defined adolescence as a time of transition in individual's life that involves multi-dimensional changes such as biological, psychological, as well as social changes. From this point of view, adolescence is a stage in human development where different body changes occur. Lawal and Akpabio (2005) defined adolescence as a "sociological construct" applied to a phase in human development like other developmental phases in human growth, applied by adult members of the society to describe the person who is in the transition to acquire biological features peculiar to the adult population. In context of this study adolescence could be defined as period in human life during which an individual is considered a novice with regards to his sexuality, the world around him and his feeling about others.

Sexual development heightens in both boys and girls with the appearance of puberty. Puberty is the offshoot of adolescence. The Action Health Incorporated [AHI] defined puberty as the process that one goes through as one grows from childhood to adulthood in readiness for reproduction. The National Institute of Health [NIH] in (2010) describe puberty as a period during which the individual experience distinct mental and physical changes. These include: growth of hair in the pubic region and under the arm pit, rapid increase in height and weight, hips become wider and broaden out, the penis gets bigger, voice breaks and deepens, considerably. The period marks the beginning of girls' menstrual cycle, sweat glands and perspiration increase, enlargement of breast and nipples, the chest of the boys becomes broader and more masculine. NIH further stressed that following the physical changes, adolescents may become more self-centred, more comfortable with their body sexually and ready for romantic relationship with opposite sex. This period also usher in some developmental needs such as: the need to pull away from parents and authority to establish their self identity and make decisions on their own which could be positive or negative, their behaviour includes day dreaming, conflict with parents, peer groups influence, beliefs and values, they become inquisitive and want to experience their reproductive organs.

Reproductive Health is defined by World Health Organization [WHO] as a state of complete physical, mental and social well-being and not merely the absence of reproductive disease or infirmity in all matters relating to the reproductive system and to its functions and processes. While reproductive health issues address the human sexuality and reproductive processes, functions and system at all stages of life and implies that people are able to have a responsible satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so.

In Nigeria, reproductive health issues are tied to the curriculum of physical health education at junior secondary schools level which invariably is taught by physical and health education teachers, who are either untrained or ill-trained to handle reproductive health matters effectively. This scenario creates many loopholes on students' knowledge of reproductive health issues nationwide. Moletsane expressed concerns over the high rates of unplanned pregnancies among secondary school students and their potential influence on learning. Oftentimes schools do a poor job of educating adolescents about sexual and reproductive health issues. Such inadequate and ineffective teaching of reproductive health issues leave young people and girls in particular,

vulnerable, to negative health outcomes which include contracting sexually transmitted infections and unwanted pregnancies.

The World Health Organization attributed young people's reproductive health problems to lack of adequate access to information and health services. They stated that worldwide, around sixteen million adolescent girls give birth every year, mostly in low and middle-income countries. Adding that the causes of teenage pregnancy are diverse in developing countries, girls are often under pressure to marry young and bear children early. Some adolescent girls who do not know how to avoid becoming pregnant are unable to obtain contraceptives or are coerced into sexual activity. Adolescent pregnancy especially in developing countries carries increased health risks and contributes to maintaining the cycle of poverty. According to World Health Organization over one hundred million acts of sexual intercourse take place each day. These result in ten thousand conceptions and three hundred and fifty six thousand sexually transmitted bacterial and viral infections. About ten percent of these conceptions are unplanned and about thirty five percent are definitely unwanted. About one hundred and fifty thousand of these pregnancies are terminated everyday by induced abortion. One third of these abortions are performed under unsafe conditions and in an adverse social and legal climate resulting in some deaths. Many times more adolescents narrowly escape death though not without significant physical and psychological injuries.

With regard to academic achievements and reproductive health problems, Wright and Richardson (2012) asserted that teen pregnancy often takes a particular toll on school connectedness for both partners, representing a major disruption in many teens' lives and making it difficult to remain in and /or engaged in school. Pregnant and parenting teens have lower grade and higher dropouts than their non parenting peers. Research shows that only fifty one percent of pregnant and parenting teens graduate from high schools as compared to eighty nine percent of their non-pregnant and parenting peers. Carlson *et al.* (2008) asserted that schools play a critical role in promoting the health and safety of young people and helping them establish lifelong health behaviours, through effective teaching methods. They further stressed that school health programme can reduce the prevalence of health risk behaviours among young people and have a positive effect on their reproductive health issues thereby enhancing students knowledge and academic achievement of reproductive health.

Achievement could be explained as accomplishing whatever goals one set for oneself. It is the attainment of standard of excellence. Achievement therefore, requires that the students make personal effort and get committed towards succeeding in their school work (Umeano and Adimora, 2010). In the context of this study, academic achievement on reproductive health issues mean the knowledge gained on reproductive health that can guide a student to exhibit positive reproductive health behaviours in family life.

Family life education is crucial to sex and sexuality of adolescent child. Alhassan (2000) defined family life education as an instruction about the family, human sexuality, parents and prevention of unwanted pregnancy. It deals with motivation for sexual behaviour among adolescents, equality between sexes, hygiene during menstruation, nocturnal emissions and the dangers of unwholesome sexual activities, knowledge of sexually transmitted disease/infection including HIV and AIDS and their prevention. Adeyemo and Brieger (1994) defined family life education as the process of imparting both factual knowledge about human development, sexual relationship, preparation for parenthood, pregnancy, contraceptives and sexually transmitted diseases. Anderson (2008) defined family life education as the study of self-awareness, understanding of others sexuality, marriage and parenthood. It is concerned with learning about living in the family, social relationship and personal development. In the context of this study, family life education is a life-long preventive education, passed by home and the school to children to enable them care for their sexual health, personal hygiene, societal norms and values, as well as life during marriage.

Despite laudable efforts at curbing sexually transmitted infections caused by unwholesome sexual behaviour by government and Non-governmental organizations there is still a major gap. Against this ordeal the Nigerian Educational Research and Development Council developed a National Family Life and HIV Education curriculum to cater for family life education at junior secondary schools in Nigeria. Some states in Nigeria are still dragging their feet at implementing it including Niger state. Its main goal is the promotion of awareness and prevention against HIV and AIDS through the following objectives: to assist individuals in having a clear and factual knowledge of humanity; to provide individuals with information and skills necessary for rational decision making about their sexual health; to change and affect behaviour of humanity; and to prevent the occurrence and spread of HIV and AIDS.

The NERDC family life and HIV education curriculum is structured in such a way that it provides a framework for the acquisition of knowledge of self and family living from childhood to adulthood. It also reflects a comprehensive approach to HIV prevention education from primary to tertiary levels of education. Hence, the curriculum according to NERDC is organised around five themes, these are: human development, personal skills, sexual health interpersonal relationship, society and culture. Its content and strategy goes thus: Theme I Human development; covered the concepts of puberty and adolescence, body image, human reproduction and reproductive system(male and female) which focuses on introducing young people to their bodies and the physical, emotional and psycho-social changes that occur during adolescence. Theme II personal skills covered the concepts of self-esteem, values, decision making, goal setting, communication, assertiveness, negotiation, finding help which focuses on how young people can acquire skills including steps to take in setting sexual limits and ways of refusing sexual advances. Theme II sexual health covered the concepts of abstinence, body abuse, sexually transmitted infections, HIV and AIDS. This theme exposes young people to issues around HIV infection and prevention and enables them make the connection between certain risky behaviours. Theme IV relationship which covered the concepts of families, friendship, love, humanity and society, relationship within the larger society. This theme encourages young people to explore relationship with family and friends and the crucial role they play in adolescent's development. Theme V society and culture which covered the concepts of gender and gender roles, humanity and media, humanity and religion, humanity and the arts, humanity and diversity and addressed the social and cultural environments that influence the way individuals learn about and express their sexuality. However this study would concentrate on the following family life education content areas. Human development (puberty and adolescence, human reproduction, reproductive system), sexual health (sexually transmitted infections and HIV) and personal skills (contraception negotiation and assertiveness)

Human reproduction is an aspect of family life education that deals with reproductive behaviour of human beings. Anderson (2008) asserted that family life education is developed as an instrument of raising awareness among adolescents on their reproduction and reproductive system through which adolescents learn about puberty, the physical changes associated with puberty, their reproductive capacity, their ability to impregnate and be pregnant and also dangers associated

with risky sexual behaviours with regards to human reproduction, adolescents and teenage pregnancy are discussed. The Action Health Incorporated listed some of the consequences of adolescent and teenage pregnancy as: premature labour and spontaneous abortion, pregnancy induced abortion, anaemia, Vesico Vaginal Fistula (VVF) that is tear between the vagina and the urinary tract, termination of education, early marriage, poverty, shame and stigmatisation, guilt feeling, loneliness, feeling of insecurity, loss of childhood and adapting to adulthood.

Sexual health is an aspect of family life education that deals with sexually transmitted infections. Alhassan (2000) asserted that family life education programme provides factual information on adolescent's sexual health through which the adolescents are taught care of the sex organs, sexually transmitted infections, HIV and AIDS. Adolescent's sexual behaviour such as: group sex, anal sex, oral sex, oral genital contact, lesbianism, homosexuality, coitus, deep kiss and prostitution are highlighted and their consequences. The Action Health Incorporated listed the consequences of adolescent sexual behaviour resulting from inappropriate sexual health as: damage to the reproductive organs resulting in infertility, ectopic pregnancy that is pregnancy that develops in the fallopian tubes and chronic pains, bladder infection, damage to other body organs such as the liver damage caused by hepatitis B, brain damage caused by syphilis and heart dysfunction caused by gonorrhoea and breakdown of the immune system or death caused by Humanoid Infection Virus (HIV).

Personal skills are aspect of family life education that deals with individual's personal skills in controlling sexual behaviours. Arcus (2003) asserted that family life education inculcate personal skills through which adolescents learn about contraceptives, skills of negotiation and advantages of negotiation and assertiveness; also the dangers of not being assertive is taught such as it can cause sexual exploitation, harassment, abuse that can lead to sexually transmitted infections and unwanted pregnancy; it causes anger and feelings of being cheated, This is because by not being assertive, ones right may be violated, it make s adolescent have low self-esteem

The persistent adolescent reproductive health problems necessitated regular research in various approaches and teaching strategies that can be used in teaching reproductive health issues in order to improve on the already existing ugly trend. Many factors were identified in literature as responsible for adolescent reproductive health problems and poor achievement. Prominent among them were the teachers teaching

method. The present study therefore set out to verify the effect of family life education instructional approach and conventional instructional approach on student's achievement on reproductive health issues.

The family life education instructional approach is student-centered approach; under this approach students are actively involved in processing information and ideas. Since students initiated questions, their needs and interests are dealt with more readily and spontaneously than in other strategies. Reproductive health topics are so sensitive and need the teachers careful handling otherwise some students may not participate for some personal reasons. Esere (2008) state that the objectives of family life education instructional approach was to reduce unsafe sexual behaviours of adolescent students and improve the quality of sexual relationships, hence the approach, combined active learning (work in small groups and games). Information leaflets on reproductive health and development of skills primarily through role playing. Possibly, family life education could promote interest investigative research, critical reasoning and satisfaction among schooling adolescents. The approach also stimulates goal-directed behaviour among adolescent students.

The conventional instructional approach on the other hand as identified by Joyce and Weil (2004) is the teacher-centered approach. Under this approach, students simply obtain information from the teacher without building their engagement level with the subject being taught (Bond and Faleti, 1999). The approach is least practical, more theoretical and memorizing. It does not apply activity based learning to encourage students to learn real life problems based on applied knowledge, Since, the teacher controls the transmission and sharing of knowledge, the lecturer may attempt to maximize the delivery of information while minimizing time and effort. As a result, both interest and understanding of students may get lost. To address such shortfalls Zakaria *et al.* (2010) specified that teaching should not merely focus on dispensing rules, definitions and procedures for students to memorize but should also actively engage students as primary participants

Location is a factor in this study. There is discrepancy in the findings on school location (urban and rural) from previous researches some in favour of urban, others in favour of rural, sometimes no location differences are found. Several studies have not found significant difference between the two groups. Haller *et al.* (1993) found that students from rural schools achieved as well as students from urban schools. Also, Alspaugh (1992) and Haller *et al.* (1993) in their studies did not find any statistically significant difference

between the two groups of students. Other scholars have found, however that rural urban differences do exist. For instance, Downey found that the achievement test scores of rural students scored two points lower than scores of urban students in each of the categories of achievement test in Kansas. In Nigeria, Adewale studied the effect of parasitic infections on school performance among school children in Ilorin. The researcher found that in rural community where nutritional status is relatively low and health problems are prevalent, children's academic performance is greatly hindered. In other studies, however students from rural schools were found to have performed better than those from urban schools (Alspaugh, 1992; Alspaugh and Harting, 1995). In view of these inconclusive findings it is necessary to carry-out further research on influence of location (urban-rural) on adolescent's reproductive health achievements.

Gender issue is another factor in this study. There are different findings on gender matters some in favour of males, others in favour of females and sometimes no gender differences are found. Schalet *et al.* (2014) states that researches across disciplines have demonstrated that gender norms and inequalities are key factors in shaping health generally, particularly sexual and reproductive health and many abstinence-centered programs teach gender stereotypes as facts, Even approaches that include information beyond abstinence have perpetuated gender inequalities. Researchers have documented how traditional gender roles impede women sexual autonomy and self efficacy and thereby increase their vulnerability to STIs including HIV intimate partner violence, unwanted sex and unintended pregnancy. Negative cultural beliefs about girls, Girls sexuality can make it difficult for them to disclose their sexual histories to partners, parents or adult care providers, while traditional gender roles can also hinder girls in refusing unwanted sex and insisting on condom use. It is possible that gender stereotypes manifest in the day to day life of an average Nigerian including teaching and learning of reproductive health. In view of the fact that gender issues are inconclusive, gender influence especially as it affects students achievement in this study is apt and needs more verification.

The primary purpose of teaching at any level of education is to bring fundamental changes in the learner (Tebabal and Kahssay, 2011). To facilitate the process of knowledge transmission, teachers need to use appropriate teaching methods that best suit specific objectives and level. Quite remarkably, regular poor academic performance by the majority of students is fundamentally linked to application of ineffective teaching methods by teachers to impact knowledge to learners (Adunola, 2011).

To this end, there is need to examine the effect of family life education instructional approach on adolescent academic achievement on reproductive health issues in Niger State, Nigeria.

Research questions: The following research questions are posed to guide the study.

- What is the mean achievement score of adolescents exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA) and those taught with Conventional Approach (CIA)?
- What are the mean achievement scores of male and female adolescents on reproductive health issues when taught using Family Life Education Instructional Approach (FLEIA)?
- What is the interaction effect of method and gender on mean achievement of adolescents on reproductive health issues?
- What are the mean achievement scores of urban and rural adolescents on reproductive health issues when taught using family life education instructional approach (FLEIA)?
- What is the interaction effect of method and location on mean achievement scores of adolescents on reproductive health issues?

Hypotheses: The following null hypotheses have been formulated and tested at 0.05 level of significance

- H_{01} : There is no significant difference in the mean achievement scores of adolescents exposed to Reproductive health issues using Family Life Education Instructional Approach (FLEIA) and those taught with Conventional Instructional Approach (CIA)
- H_{02} : There is no significant difference in the mean achievement scores of male and female adolescents exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA)
- H_{03} : There is no interaction effect of method and gender on mean achievement score of adolescents in reproductive health issues
- H_{04} : There is no significant difference in the mean achievement scores of urban and rural adolescents exposed to Reproductive health issues using Family Life Education Instructional Approach (FLEIA)
- H_{05} : There is no interaction effect of method and location on mean achievement score of adolescents in reproductive health issues

MATERIALS AND METHODS

Area of the study: The area of the study was in Bida education zone of Niger state. Niger state was created in 1976. It has twenty five local government areas and three educational zones namely: Bida, Minna and Kontagora zone. Geographically the state shares boundaries with Kaduna state to the north, Kogi state and FCT Abuja to the East, Kwara state to the West and Kebbi state along with Republic of Benin to the South. The study was carried out in Bida education zone. The people of Bida education zone are predominantly farmers and fishermen. The choice of Bida education zone was due to the increase in reports about students drop out of school as a result of pregnancies and cases of Sexually Transmitted Diseases (STD) in schools. Furthermore, it enables the researchers to supervise the family life education package weekly.

Participants: The population of the study comprised all JSS III adolescent students from Bida educational zone categorized into 5 boy's schools, 9 girls' schools and 87 coeducational schools. There are 15,420 students in those schools, made up of 9,784 male students and 5,636 female students. The students were further divided into Urban and rural location. Adolescents from the urban schools are 10,204 while student's rural schools are 5,216 (Niger State Ministry of Education). The choice of JSS III was based on the fact that the curriculum of family life education is planned to cover JSS III student's work. The sample size for this study comprised of 182 JSS III Adolescent students. This is made up of (112) male adolescents and (70) female adolescents from 4 (four) co-education schools in Bida education zone. Purposive sampling technique was used to draw 4 (four) schools from the 87 (eighty seven) co-education schools in Bida education zone. The criteria for the purposive sampling technique include schools that have experienced physical and health education teachers, presence of JSS III classes and schools that have cases of dropouts, teenage pregnancy and early marriage. In each of the four schools, one arm of JSS III was randomly selected and through balloting assigned to a research condition. In effect, the students from two arms of JSS III in two schools constitute the experimental group; similarly, students from two arms of JSS III in the remaining two schools served as the control group. They were also chosen through the balloting technique.

Design: The study adopted a quasi-experimental design. Specifically the quasi-experimental design adopted is the non equivalent-control group design. This is because

intact classes (pre-existing groups) were used, since randomization was not possible. This is represented symbolically as follows:

Grouping Pre-test Research condition Post-test
Experimental group Yb = X Ya
Control group Yb X Ya

Where:

Yb= Pre-test administered to treatment and control groups respectively.

=X = Treatment given to Experimental group using Family Life Education.

Ya = post-test administered to the Experimental and control groups.

X= No treatment to the control group

Procedure: The Family Life Education Package (FLEP) was used in training of teachers for the experimental groups. The training package was based on NERDC family life education curriculum for junior secondary schools. The physical and health education teachers from the two (2) experimental schools were trained on reproductive health issues in family life education using the family life education package as a guide. The training exercise took place at Government College, Bida and it lasted for 3 days. The experimental group were taught by trained family life education teachers, while the control group were taught using conventional/traditional lecture method by their teachers who did not undergo the family life education training.

The instructional procedures employed in the two instructional approaches were basically the same in terms of instructional objectives instructional materials, content as well as method of evaluation. The major differences between the two approaches was the fact that Family Life Education Instructional Approach (FLEIA) integrated family life education into physical and health education contents, The Conventional Instructional Approach (CIA) did not incorporate family life education into their lessons. The control group made use of the Conventional Instructional Approach (CIA) whereas the experimental group used the Family Life Education Instructional Approach (FLEIA). To ensure adherence to these two approaches detailed lesson plans were developed following each procedure for the use of the teachers handling the two groups. Pre-test was administered to both the control and experimental groups before the instructional intervention. After the pre-test the family life education teachers who were also their regular physical and health education teacher taught the experimental students in their respective schools using the FLEIA and bearing in mind as well the issues raised during the

training session. Students in the control schools were taught concurrently by their own regular teachers using the CIA lesson plans. The experiment was carried out during normal school periods and it lasted for 12 exposures of three periods per week. At the end of the experiment, the physical and health education teachers who were involved in the process administered the post-test [i.e., Family Life Education Cognitive Achievement Test (FLECAT)] to the subjects in the two groups.

Measure: Family Life Education Cognitive Achievement Test (FLECAT): The FLECAT is an objective test developed by the researchers to measure student's achievement on the units covered during the experiment. In its final form it contains 40 multiple choice objective test items with four response options. The items were drawn from the following units in the junior secondary school Health Education curriculum:

- Family life education
- Drug use, misuse and abuse
- Sexually transmitted disease, HIV and AIDS education

The table of specification for constructing the Family Life Education Cognitive Achievement Test (FLECAT) was developed by the researchers using the Health Education curriculum. The table was used to specify the number of items that was developed in each of the three topics (Family life education, Drug use, misuse and abuse, Sexually transmitted diseases, HIV & AIDS). The first three cognitive levels were used in constructing the items. They are knowledge, comprehension and application. The objective levels were limited to the first three based on the fact that at Junior Secondary School Level, emphasis is mostly on these lower levels. Face validation of Family Life Education Package (FLEP) was carried out using two experts in the Department of Educational Foundations University of Nigeria Nsukka. The Family Life Education Cognitive Achievement Test (FLECAT) was subjected to face and content validation, respectively.

Data analysis: Descriptive statistics such as mean and standard deviation were used in answering the research questions. Analysis of Covariance (ANCOVA) was used to test the hypotheses at 0.05 probability levels ($p = 0.05$).

RESULTS

The results are presented in tables according to the research questions and hypotheses that guided the study.

Table 1: Mean and standard deviation of pretest-posttest score of adolescents exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA) and those taught with Conventional Instructional Approach (CIA)

Variables	N	Pre test		Post test		Mean gain
		\bar{x}	SD	\bar{x}	SD	
FLEIA	106	17.94	6.45	30.22	6.46	12.48
CIA	77	10.94	3.96	15.14	3.39	4.20

The result presented in Table 1 shows that adolescents exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA) (experimental group) had a pretest mean of 17.94 with a standard deviation of 6.45 and a posttest mean of 30.22 with a standard deviation of 6.46. The difference between the pretest and posttest mean for the group taught using family life education instructional approach was 12.48. The group using conventional instructional approach (control group) had a pretest mean of 10.94 with a standard deviation of 3.96 and a posttest mean of 15.14 with a standard deviation of 3.39. The difference between the pretest and posttest mean for the control group was 4.20. For each of the groups, the posttest means was greater than the pretest mean with the experimental group having a higher mean gain. This is indicative that Family Life Education Instructional Approach (FLEIA) improved students' achievement in reproductive health issues higher than conventional instructional approach.

The result in Table 2 shows that an F-ratio of 294.71 with associated probability value of 0.00 was obtained with regards to the mean achievement score of adolescents exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA) and those taught with Conventional Instructional Approach (CIA). Since, the associated probability (0.00) was <0.05 set as level of significance, the null hypothesis (H_{01}) which stated that there is no significant difference in the mean achievement scores of adolescents exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA) and those taught with Conventional Instructional Approach (CIA) was rejected. Thus, there was a significant difference in the mean achievement scores of adolescents exposed to Reproductive health issues using Family Life Education Instructional Approach (FLEIA) and those taught with Conventional Instructional Approach (CIA) with those taught using family life education instructional approach having a higher mean gain.

The result presented on Table 3 shows that the male group had a pretest mean of 19.04 with a standard deviation of 6.17 and a posttest mean of 30.96 with a standard deviation of 4.29. The difference between the pretest and posttest mean for male group is 11.92. The

Table 2: Analysis of Covariance (ANCOVA) of the mean achievement score of adolescents exposed to reproductive health issues using family life education instructional approach (FLEIA) and those taught with Conventional Instructional Approach (CIA)

Source	Type III sum of squares	df	Mean square	F	Sig.
Corrected model	10341.72	2	5170.86	253.78	0.00
Intercept	9007.97	1	9007.97	442.09	0.00
Pretest	194.36	1	194.36	9.54	0.00
Method	6004.98	1	6004.98	294.71	0.00
Error	3667.64	180	20.38		
Total	118364.00	183			
Corrected total	14009.36	182			

Table 3: Mean and standard deviation of mean achievement scores of male and female adolescents on reproductive health issues when taught using Family Life Education Instructional Approach (FLEIA)

Variables	N	Pre test		Post test		Mean gain
		\bar{x}	SD	\bar{x}	SD	
Gender						
Male	75	19.04	6.17	30.96	4.29	11.92
Female	31	15.29	6.45	21.27	7.03	5.980

Table 4: Analysis of Covariance (ANCOVA) of the mean achievement score of male and female adolescent students exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA)

Source	Type III sum of squares	df	Mean square	F	Sig.
Corrected model	10433.93	4	2608.48	129.86	0.000
Intercept	9037.19	1	9037.19	449.91	0.000
Pretest	134.54	1	134.54	6.70	0.010
Method	5742.90	1	5742.90	285.91	0.000
Gender	9.05	1	9.05	0.45	0.503
Method*gender	81.06	1	81.06	4.04	0.046
Error	3575.43	178	20.09		
Total	118364.00	183			
Corrected total	14009.36	182			

Table 5: Mean and standard deviation of the interaction effect of method and gender on mean achievement of adolescents in reproductive health issues

Method	Gender	N	Pre test scores		Post test scores		Mean gain
			\bar{x}	SD	\bar{x}	SD	
FLEIA	Male	75	19.04	6.17	30.96	4.29	11.920
	Female	31	15.29	6.45	21.27	7.03	5.980
CIA	Male	38	11.21	3.59	14.17	2.64	2.960
	Female	39	10.67	3.82	15.56	8.33	4.890

female group had a pretest means of 15.29 with a standard deviation of 6.45 and a posttest mean 21.27 with a standard deviation of 7.03. The difference between the pretest and posttest mean for female group is 5.98. For each of the two groups, the posttest achievement means was greater than the pretest achievement means with the male group having higher mean gain. This is indicative that Family Life Education Instructional Approach (FLEIA) appears to have improved the achievement score of both male and female students.

The result in Table 4 shows that an F-ratio of 0.45 with associated probability value of 0.45 was obtained with regards to the mean achievement score of male and female adolescents exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA). Since the associated probability (0.45) was greater than 0.05 set as level of significance, the null hypothesis (H_{02}) which stated that there is no significant difference in the mean achievement scores of male and

female adolescents exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA) was not rejected. Thus, there was no significant difference in the mean achievement scores of male and female adolescents exposed to Reproductive health issues using Family Life Education Instructional Approach (FLEIA) with those male adolescents having slightly higher mean gain.

The result presented in Table 5 shows the interaction between method and gender on mean achievement of adolescents in reproductive health issues. Result shows that the male group had a pretest mean of 19.04 with a standard deviation of 6.17 and a posttest mean of 30.96 with a standard deviation of 4.29. The difference between the pretest and posttest mean for male group is 11.92. The female group had a pretest mean of 15.29 with a standard deviation of 6.45 and a posttest mean 21.27 with a standard deviation of 7.03. The difference between the pretest and posttest mean for female group is 5.98. For

Table 7: Analysis of Covariance (ANCOVA) of the mean achievement score of urban and rural adolescents exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA)

Source	Type III SS	Df	Mean square	F	Sig.
Corrected model	10912.167	4	2728.042	156.785	0.000
Intercept	7130.007	1	7130.007	409.772	0.000
Pretest	411.331	1	411.331	23.640	0.000
Method	5409.376	1	5409.376	310.885	0.000
Location	408.242	1	408.242	23.462	0.000
Method*location	100.667	1	100.667	5.786	0.017
Error	3097.188	178	17.400		
Total	118364.000	183			
Corrected total	14009.355	182			

Table 8: Mean and standard deviation of the interaction effect of method and location on mean achievement of adolescents in reproductive health issues

Variables			Pre test scores		Post test scores		Mean gain
Method	Location	N	\bar{x}	SD	\bar{x}	SD	
FLEIA	Urban	52	15.87	6.72	32.00	2.85	16.13
	Rural	54	19.94	5.54	28.52	6.51	8.58
CIA	Urban	44	10.50	3.36	15.70	3.55	5.20
	Rural	33	11.52	4.08	14.39	3.10	2.87

each of the two groups, the posttest achievement mean was greater than the pretest achievement mean with the male group having higher mean gain. This is indicative that Family Life Education Instructional Approach (FLEIA) appears to have improved the achievement score of both male and female students. Result in Table 5 also shows that the male group taught using CIA had a pretest mean 11.21 with a standard deviation of 3.59 and a posttest mean of 14.17 with a standard deviation of 3.42. The difference between the pretest and posttest test mean for male group was 2.96. The female group a pretest mean of 10.67 with a standard deviation of 3.82 and a posttest mean 15.56 with a standard deviation of 8.33. The difference between the pretest and posttest mean for female group was 4.89. For each of the two groups, the posttest mean score was greater than the pretest mean. The female adolescents in the control group gained more scores than their male counterpart; this means that there was an interaction between method and gender on adolescent's achievement in reproductive health issues. The result in Table 4 shows that an F-ratio of 4.04 with associated probability value of 0.05 was obtained with regards to the interaction effect between method and gender on mean achievement of adolescents in reproductive health issues. Since the associated probability (0.05) was equal to 0.05, the null hypothesis (H_{03}) was rejected. Thus, there was a significant interaction effect between method and gender on mean achievement of adolescents in reproductive health issues.

The result presented in Table 6 shows that the urban group had a pretest mean of 15.87 with a standard deviation of 6.72 and a posttest mean of 32.00 with a standard deviation of 2.85. The difference between the pretest and posttest mean for urban group is 16.13. The

Rural group had a pretest mean of 19.94 with a standard deviation of 5.54 and a posttest mean 28.52 with a standard deviation of 6.51. The difference between the pretest and posttest mean for rural group is 8.58. For each of the two groups, the posttest mean achievement score was greater than the pretest mean achievement scores with the urban group having higher mean gain. This is indicative that Family Life Education Instructional Approach (FLEIA) appears to have improved the achievement score of both urban and rural students.

The result in Table 7 shows that an F-ratio of 23.46 with associated probability value of 0.00 was obtained with regards to the mean achievement score of male and female adolescents exposed to reproductive health issues using Family life education instructional approach (FLEIA). Since the associated probability (0.00) was <0.05 set as level of significance, the null hypothesis (H_{04}) which stated that there is no significant difference in the mean achievement scores of urban and rural adolescents exposed to Reproductive health issues using Family Life Education Instructional Approach (FLEIA) was rejected. Thus, there was a significant difference in the mean achievement scores of urban and rural adolescents exposed to Reproductive health issues using Family Life Education Instructional Approach (FLEIA) with those urban adolescents having slightly higher mean gain.

The result presented in Table 8 shows the interaction between method and location on mean achievement of adolescents in reproductive health issues. Result shows that the urban group had a pretest mean of 15.87 with a standard deviation of 6.72 and a posttest mean of 32.00 with a standard deviation of 2.85. The difference between the pretest and posttest mean for urban group is 16.13. The Rural group had a pretest means of 19.94 with a standard deviation of 5.54 and a posttest mean 28.52 with

a standard deviation of 6.51. The difference between the pretest and posttest mean for rural group is 8.58. For each of the two groups, the posttest mean achievement score was greater than the pretest mean achievement score with the urban group having higher mean gain. This is indicative that Family Life Education Instructional Approach (FLEIA) appears to have improved the achievement score of both urban and rural students. Result in Table 8 also shows that the urban group taught using CIA had a pretest mean 10.50 with a standard deviation of 3.36 and a posttest mean of 15.70 with a standard deviation of 3.55. The difference between the pretest and posttest test mean for urban group had was 5.20. The rural group scored a pretest means of 11.52 with a standard deviation of 4.08 and a posttest mean 14.39 with a standard deviation of 3.10. The difference between the pretest and posttest mean for rural group was 2.87. For each of the two groups, the posttests mean score was greater than the pretest mean. The urban adolescents in the control group gained more scores than their rural counterpart; this means that there was an interaction between method and gender on adolescent's achievement in reproductive health issues.

- H_{05} . There is no significant interaction effect between method and location on mean achievement of adolescents in reproductive health issues

The result in Table 7 shows that an F-ratio of 5.79 with associated probability value of 0.02 was obtained with regards to the interaction effect between method and location on mean achievement of adolescents in reproductive health issues. Since the associated probability (0.02) was <0.05 , the null hypothesis (H_{05}) was rejected. Thus, there was a significant interaction effect between method and location on mean achievement of adolescents in reproductive health issues.

DISCUSSION

Family life education instructional approach and adolescent achievement in reproductive health issues: In Table 1, the mean difference achievement score of family life education instructional approach group in the posttest was 12.48. This is higher than the posttest mean difference achievement scores of 4.20 for the conventional instructional approach group. This shows that the family life education instructional approach used in teaching reproductive health issues improve the adolescent achievement. Also, Table 1 reveals that difference in achievement of adolescents was statistically significant among students taught using family life education

instructional approach. This finding was further confirmed by the result presented on Table 2 which shows that teaching methods are significant factors on adolescent's achievement in reproductive health issues. Thus, adolescents who were taught reproductive health issues using family life education instructional approach achieved better than those taught using conventional instructional approach. The implication is that the modes of instruction used in teaching reproductive health issues are capable of producing effects on adolescent's achievements in reproductive health issues. These findings appear to support those of other studies such as Freudenberg and Ruglis (2007) asserted that experimental treatment improved achievement in reproductive health issues. This finding is also in agreement with previous studies such as Muennig and Woolf (2007) who noted that appropriate methods lead to student improvement in reproductive health achievement.

This result may have been due to the use of innovative teaching and learning method (FLEIA) in which the activities involve adolescent's meaningful participation. This was in addition to the interesting experiences gained by adolescents in family life education group who were very anxious to learn considering their level of participation in asking and answering questions, together with deep interest in carrying out class assignment. This implies that the family life education instructional approach is efficacious in enhancing adolescent's achievement in reproductive health issues contents taught.

Male and female adolescent's achievement in reproductive health issue using Family Life Education Instructional Approach (FLEIA): Table 3 shows that male adolescents reproductive health issue in the family life education instructional approach group scored post test mean score of 30.96 as against pretest mean score of 19.04. Also female adolescents in the family life education instructional approach group scored a posttest mean score of 21.27 as against pretest score of 15.29. There is no variance in the posttest scores of male and female adolescents in the family life education instructional approach group indicating that both male and female benefited equally. The difference between the pretest and posttest mean for male group is 11.92 and the difference between the pretest and posttest means for female group is 5.98. For each of the two groups, the posttest achievement means was greater than the pretest achievement mean with the male group having higher mean gain. This is indicative that Family Life Education Instructional Approach (FLEIA) appears to have improved the achievement score of both male and female adolescent.

Table 4 further shows that F-ratio of 0.45 with associated probability value of 0.45 was obtained with regards to the mean achievement score of male and female adolescents exposed to reproductive health issues using (FLEIA) since the associated probability (0.45) was greater than 0.05 set as level of significance, the null hypotheses which stated that there was no significant difference in the mean achievement score of male and female adolescents exposed to reproductive health issues using (FLEIA) was not rejected. This finding is in line with the earlier findings of Omotoso *et al.* (2010) and Dotonu (2011) who noted that there was no observable significant difference between male and female adolescents achievement in reproductive health issues when good method, materials and teaching strategies were used. Both gender were highly interested in discussions going on in the classroom which resulted to no significant difference as observed in the study.

Interaction effect of method and gender on adolescent achievement in reproductive health issues: The result in Table 5 confirmed that there is a significant interaction between method and gender on achievement in reproductive health issues. This implies that the effectiveness of the interaction was dependent on gender. In other word, the effect of the intervention was different (i.e. not consistent.) for male and female. Males tended to benefit more than females from the intervention. It also suggests that the difference in achievement between males and females (i.e reproductive health achievement) was not consistent for the two treatment condition, while the difference was more in conventional instruction. It was much smaller in the FLEIA group. This is consistent with Esere (2008) which posited that there was no significant difference between the male and female participants exposed to the same experimental condition.

Urban and rural adolescent's achievement in reproductive health issues using Family Life Education Instructional Approach (FLEIA): The result in Table 6 shows that urban group had a posttest of 32.00 as against the pretest score of 15.87. Also rural group had a posttest mean score of 28.52 as against the pretest score of 19.94. For each of the two groups, the posttest mean achievement score was greater than the pretest mean scores with the urban group having higher mean gain. This is indicative that Family Life Education Instructional Approach (FLEIA) appears to have improved the achievement scores of both urban and rural adolescents. The result in table 7 further shows that an F-ratio of 23.46 with associated probability value of 0.00 was obtained with regard to the mean achievement score of urban and rural adolescents exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA). Since, the associated probability (0.00) was less

than 0.05 set as a level of significance, the null hypotheses which stated that there is no significant difference in mean achievement scores of urban and rural adolescents exposed to reproductive health issues using family life education instructional approach (FLEIA) was rejected. Thus, there was a significant difference in the mean achievement scores of urban and rural adolescent exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA) with urban adolescents having slightly higher mean gain. This finding is consistent with that of Adeboyejo and Onyeonoru (2005) who stated that difference exist in the reproductive health achievement of urban and rural adolescent who are exposed to the same experimental condition. The reason for this result might be that urban schools are better staffed with facilities, so students are exposed to good study habits and highly motivated to study in a conducive learning environment, hence these factors encourage the students from urban schools to perform better than the rural schools.

Interaction effect of method and location on adolescent's achievement in reproductive health issues: Table 7 shows that there was no significant interaction effect between method and location on mean achievement of adolescent in reproductive health issues. The result shows a F-ratio of 5.79 with associated probability value of 0.02 obtained with regard to the interaction effect between method and location on mean achievement of adolescent in reproductive health issues. Since, the associated probability 0.02 was <0.05 , the null hypothesis was rejected. Thus, there was a significant interaction effect between method and location on mean achievement of adolescents in reproductive health issues. This finding supports earlier studies of Crosby *et al.* (2000) who earlier noted that there was a significant interaction effect of treatment and location on adolescent achievement in reproductive health issues.

CONCLUSION

Based on the results obtained, the researchers drew the following conclusion: that family life education package did not only significantly enhance adolescents achievement in reproductive health issues when compared to the conventional instructional approach, but also led to greater knowledge of reproductive health problems and challenges; there was no significant difference in the mean achievement scores of male and female adolescents exposed to reproductive health issues using Family Life Education Instructional Approach (FLEIA) with male adolescents having slightly higher mean gain; there was a significant interaction effect between method and gender on mean achievement of adolescents in reproductive health issues; there was a

significant difference in the mean achievement scores of urban and rural adolescents exposed to Family Life Education Instructional Approach (FLEIA) with urban adolescents having slightly higher mean gain and there was a significant interaction effect between method and location on mean achievement of adolescents in reproductive health issues.

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